

EDWARD CAMPBELL  
ROBBED OF HIS SIGHT, HE STILL  
HAS DONE GREAT WORK

Allan Harding

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# Robbed of His Sight He Still Has Done Great Work

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Feb. 1923

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Professor Edward D. Campbell's eyes were instantly destroyed during a laboratory experiment thirty years ago; yet he has achieved a high reputation as a scientist, has been a factor in the advance of two great industries, and has trained dozens of men and helped them to make their mark in the world

*By Allan Harding*

ONE April afternoon, back in 1892, three young men were conducting an experiment in the chemical laboratory of the University of Michigan at Ann Arbor. Two of the young men were students. The third, whose name was Edward D. Campbell, was assistant professor of metallurgy.

He was then only twenty-eight years old. For eight years he had been studying the chemical constitution of steel, four years of that time having been spent in iron and steel plants. On this particular afternoon he was experimenting with the gases obtained by dissolving steel in hydrochloric acid, gases which contain about 95 per cent of highly inflammable hydrogen.

He was attempting to get rid of the hydrogen by oxidizing it.

According to the literature on the subject the method he was using was practicable. But he knew there was an element of danger in the experiment; so while he himself was standing close beside the glass tube through which the gases were passing, he had directed his two assistants to stand behind him.

Suddenly there came one of those strange coincidences which fate sometimes seems to bring about. At the precise instant that Mr. Campbell bent over the apparatus to see whether the oxygen and hydrogen were combining and forming water, the gases exploded, blowing the tube to pieces.

If the explosion had come a few seconds sooner, or a few seconds later, no serious injury would have been done. The young men standing back of their instructor were only slightly cut by flying pieces of glass. If Mr. Campbell's face had been a few inches above or below where it was, he too would have escaped being badly hurt.

But at the very second of the explosion his face was in the one and only position where his eyes could receive the full charge of shattered glass! One eye was

instantly destroyed. A piece of glass three quarters of an inch long was driven into the other eye. The rest of his face had only slight cuts, of which not a single scar remains. Fate seemed to have ordained the tragic coincidence that he should make the one movement, at the one instant, that would cost him his sight for the remainder of his life.

"At first," some of his old friends told me, "he begged the physicians not to let him live. He said he preferred death to blindness. But before that night was over he had summoned a courage which, so far

search work in regard to Portland cement—work which has been of practical value to this great industry; and he has trained and sent out dozens of men who have made a name for themselves and have contributed to the advancement of science and to its practical application in chemical engineering.

That is a record of which any man might be proud. But when it has been made by a man with the handicap which Professor Campbell has had to overcome, it seems almost incredible.

"Didn't you think at first that you would have to give up your work?" I asked.

"No," he said; "I realized that I should have to devise new ways and means of doing some things; but so far as my teaching was concerned the loss of my sight did not offer any very great difficulty. In lecturing to classes I had not depended on notes, except perhaps to write down a few heads on which I intended to talk. Fortunately, I had done from choice what I now had to do from necessity: I had depended on knowledge and memory.

"I believed, even then, in *knowing facts*; especially the facts pertaining to one's work. If I am directing an experiment, I do not have to ask someone to tell me the basic principles involved. I already know them. I depend on my memory, not on constant reference to books or notes.

"Of late years, I have had many good-humored arguments with some of my friends on this subject. They say they think it is foolish to burden the memory with a mass of facts. They have card indexes which will tell them where to find information when they need it. But I think you should *know* the facts you want to use in your work. These facts may be recorded in books, and you may own the books. But you don't own the *knowledge*, unless you have mastered it with your understanding and possess it through your memory.

"When my eyes were gone, I could continue to teach (Continued on page 74)

## Why Men Don't Like to Smoke in the Dark

**A** CURIOUS example of dependence on sight is to be found in smoking," says Professor Campbell. "Men do not like to smoke in the dark. Yet they get all the sensations then that they would get if it were light, except that they can't see the smoke. Perhaps this accounts for the fact that I have no inclination to smoke. I should have to do it in the dark."

as we know, never has failed him. The next morning he began to rebuild his life.

"The accident happened at three o'clock on Tuesday afternoon. On Friday the spring vacation began. When the university reopened, a week from the following Monday, he was there ready to go on with his work. He lost only those three days from Tuesday to Friday."

In the thirty years that have passed since that April afternoon, Professor Campbell has become head of the Department of Chemistry at the University of Michigan; he has continued his scientific study of the structure of iron and steel; he has also carried on important re-







Photo by Randall Studios, Ann Arbor

*Edward D. Campbell*

THIRTY years ago, during a laboratory experiment, there was an explosion which instantly destroyed Professor Campbell's eyes. Instead of thinking that this must end his career as a scientist and an instructor in chemistry, Professor Campbell went right on with both lines of work. He has conducted researches in regard to iron, steel and cement, and has published over sixty

scientific articles and books that have been of great practical use to the industries concerned. He also has become director of the Department of Chemistry at the University of Michigan, and is a member of various scientific societies elsewhere. He was born fifty-nine years ago, is married, and has six grown children; four of them he never has seen.





### *J. Waldo Smith*

J. WALDO SMITH was born in Lincoln, Mass., in 1861. When seventeen he was engineer of his home town waterworks. Later he studied at the Massachusetts Institute of Technology, the Stevens Institute of Technology, and Columbia University. He directed several water supply enterprises in New Jersey before he put through the titanic task of bringing water from the Catskill Mountains to the people of New York City. Lower left: Engineers measuring

cross-section of unlined tunnel under Fiftieth Street at Sixth Avenue, New York. Lower right: When the engineers found it impracticable to bore the tunnel through rock, or to build a reinforced concrete aqueduct on the surface, they resorted to splitting the main aqueduct into steel pipes. Three pipes are necessary, because it is not feasible to build a steel pipe as large as the main tunnel. The underground picture was taken sixteen miles north of New York.

# Robbed of His Sight He Still Has Done Great Work

*(Continued from page 34)*

because I possessed the knowledge of what was to be taught, and I could go on increasing my knowledge by having new books and technical journals read to me. My ears could be almost as good a door by which to admit facts to my mind as my eyes had been.

"Of course, I have been *forced* to train my memory; but anyone else could do the same thing. The memory can be made to carry a heavy burden, or it can be allowed to atrophy through lack of use.

"My color sense, or rather, my color memory, is not as strong as it used to be. When I think of objects, I naturally have a mental picture of them. But as the years have gone by I find that I am inclined to think of objects more as forms, without any special color.

"Psychologists will tell you that this is a common experience with people who have become blind. The color sense gets to be rather indistinct; but the idea of form remains in a blind person's mental 'visualization' of things."













## Do you realize that health depends largely upon the condition of your nerves?

PERHAPS you know from bitter experience that when you drink a cup or two of coffee at evening you do not get very much sleep that night. Or else, the fitful sleep you get does not seem to refresh and rest you as it should.

Remember that the caffeine in coffee always works on the *nerves*, no matter when you drink this irritating beverage. Only you don't notice the effects during the day as much as you do when you are kept awake at night.

Why not be on the safe side? Stop coffee for awhile, and drink healthful Postum instead. Postum is the delightful cereal beverage with a rich flavor that many thousands of people prefer to coffee itself.

Your grocer sells Postum in two forms:—Instant Postum (in tins) prepared instantly in the cup by the addition of boiling water. Postum Cereal (in packages) for those who prefer to make the drink while the meal is being prepared; made by boiling fully twenty minutes.

# Postum

## FOR HEALTH

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"Suppose someone told you about the Woolworth building in New York," I said. "How would you see it in your mind, with its fifty-five stories—"

"Ah!" Professor Campbell interrupted. "There is the point! If I am told that it is fifty-five stories in height, I have a dimension to guide me. That's what I *must* have—dimensions! People can tell me that something is magnificent, or beautiful, or graceful. But that means nothing to me. I must know the height and breadth and length. If it is a building, I want to know the shape; the number and the arrangement of the windows; the structural peculiarities. Then I have a mental picture of it. The picture may not be just like the reality, but it is a definite one and is probably quite like the reality, in form at least.

"When we put up our new chemistry building at the university, I, as director of the department, had charge of its designing and construction. And I had to depend on my memory to keep me in possession of countless details. I knew the exact location of every wall, door, window, and stairway. There were seven systems of piping to be installed. I knew the location of every pipe. I *had* to know it, or I couldn't have talked with the plumbers and other contractors about the work.

"The building contains one hundred and twenty-five rooms. I planned the equipment for all these rooms, and knew, practically to an inch, the position of every desk, table, case, and every piece of apparatus that was in the building. I carried all these details in my mind, because it was up to me to know them. You see," he explained, "if I was the director, I certainly meant to be able to do the directing.

"PEOPLE often talk about the memory as if it were a roll-top desk, with just a certain number of pigeonholes. When they are full, the storage capacity is exhausted. But that is not true of the memory. Its capacity increases with the demands made on it.

"In one respect, however, my memory does not serve me well, and the reason will perhaps be interesting to you, because you can compare it with your own experience. Perhaps you do not realize how you unconsciously fix the period of an event by something you *saw* at the time it happened. I have none of these visual associations to help me and I therefore often find myself unable to remember when a certain thing occurred.

"For example, I may attend the funeral of a friend. I have no difficulty in remembering that I did go to his funeral. But after a few years have passed, I probably couldn't tell you whether my friend died in summer or in winter, in spring or in fall. You would remember the season, because you would associate the event with what you saw at the time: trees in full foliage, or perhaps with bare branches, or in brilliant autumn coloring."

"But didn't the loss of your sight result in a sharpening of your other senses?" I asked. "We are often told that this is one of the ways in which nature compensates us."

"Well," said Professor Campbell, "nature did not see fit to compensate *me* in that accommodating fashion. Quite the contrary, in fact. By heredity, I was predisposed to deafness; and, as you probably have noticed, I am following that



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counts for more  
than white teeth*

## No Excuse Now

### For dingy film on teeth

A way has been found to combat film on teeth, and millions of people now use it.

A few years ago, nearly all teeth were coated more or less. Today those dingy coats are inexcusable. You can prove this by a pleasant ten-day test.

#### Film ruins teeth

Film is that viscous coat you feel. It clings to teeth, gets between the teeth and stays. Then it forms the basis of dingy coats which hide the teeth's natural luster.

Film also holds food substance which ferments and forms acid. It holds the acid in contact with the teeth to cause decay. Millions of germs breed in it. They, with tartar, are the chief cause of pyorrhea.

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Dental science has now found two effective film combatants. Their action is to curdle film and then harmlessly remove it. Years of careful tests have amply proved their efficiency.

A new-type tooth paste has been created, based on modern research. These two film combatants are embodied in it for daily application. The name of that tooth paste is Pepsodent.

Dental authorities the world over now endorse this method. Leading dentists everywhere are urging its adoption.

#### Other new effects

Pepsodent also multiplies the starch digestant in the saliva. That is there to digest starch deposits which may otherwise cling and form acids.

It multiplies the alkalinity of the saliva. That is there to neutralize acids which cause tooth decay.

Old-time tooth pastes, based on soap and chalk, had just opposite effects.

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Now careful people of fifty nations are using Pepsodent, largely by dental advice. You can see the results in lustrous teeth wherever you look today. To millions of people it has brought a new era in teeth cleaning.

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In one week you will realize that this method means new beauty, new protection for the teeth. Cut out the coupon now.

predisposition. I do not hear musical tones at all, if they are above a certain pitch. I cannot hear the buzzing of insects. That is no great loss, to be sure; but I also do not hear the high notes of birds, or the high notes of a voice, or a violin.

"This impairment of my hearing has cost me some pleasures I used to enjoy. I don't get a great deal of pleasure out of a concert now, for instance. As for the theatre, even when I could hear perfectly I didn't find very much satisfaction in a play. To me, of course, it was only spoken dialogue, without action or facial expression. It was a good deal as if a story were being read aloud to me by a number of persons instead of by a single one. Try it yourself. Keep your eyes closed throughout an entire play, and I think you will find that you get only a moderate amount of pleasure out of it."

"But in regard to voices in general," I said; "don't they mean more to you than to most of us?"

"I'm not sure that they do," he replied. "They doubtless signify more to you than you realize. Voices are individual in their characteristics; but we all know this. Perhaps I am more quick to recognize a voice because I have had *only* the voice as a guide to identity. But I don't think I have any extraordinary ability in this direction."

"THERE is one interesting thing, however, which is generally admitted: The voice does not change as much, or as quickly, as the face does when a person grows older. Occasionally my former students come to see me; and I can often recognize by his voice a man whom I have not met for twenty or twenty-five years. Sometimes I am told that the man, whose identity I have guessed by his voice, has so altered in appearance that his old friends could not recognize him. They were depending on the evidence of their eyes; and for some reason the evidence of the eyes seems to register more strongly than that of the ears."

"Even when the chief appeal is to some other sense, the eyes often distract the attention. For instance, if my hearing were perfect I think that I should enjoy a concert more without my eyes than with them."

"Nature has not compensated me for the loss of my sight by sharpening my other senses, but there has been one gain: I am sure that it is easier for me to carry on sustained and concentrated thought. Aside from my work, you see, there is little I can do, except to think. You remember the story of one of the Southern mountaineers who was asked how he and his neighbors spent their time."

"Well," he said, "sometimes we set an' think—an' sometimes we just set!"

"I'm inclined to believe that a good many people sometimes set an' think an' sometimes just set and *look!* People sit on their porches, or at their windows, and watch the passers-by, or the procession of automobiles; and their minds are occupied with what their eyes are seeing. Under those conditions, it is practically impossible to do any concentrated thinking."

"Then, too, they have constant temptations to do things for recreation; and most of these things depend on the possession of sight. They read, or play cards, or go to the theatre or the movies, or for a

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motor ride, or a walk. But in my case, while I undoubtedly miss a great many pleasures, I am also immune to many temptations which would interfere with my doing as much thinking as I have done."

"But don't you enjoy motoring and walking?" I asked.

"I like to take a short ride occasionally," said Professor Campbell; "but how much motoring would *you* do if you *saw* nothing along the way? The only sensations you would get would be those from the motion of the car and from the wind against your face. Those may be agreeable for a short time, but not for very long.

"As for walking—yes, I like that; but I walk on my porch. I wouldn't *see* any more if I walked ten miles in the country! I usually walk from my house to my office and back, several times a day. But I never go on the street alone. Even with a companion, there is the constant necessity of negotiating steps and crossings and uneven bits of pavement, of which *you* take no conscious notice.

"But on my porch, which is thirty feet long, I can walk without having someone literally at my elbow all the time. I trail my fingers along the swinging seat and various other objects, so that I won't stray out of my course. For no one can walk a straight line for any considerable distance without the aid of vision or of touch. That is another fact you can prove to yourself by trying the experiment.

"**B**EFORE I built the house where we now live, I had a plank walk constructed in the yard of our old place. It was seventy-five feet long, with a rail down the center. About three feet from each end of the rail I set in it a screw. The top, which was covered with rubber, projected about an inch above the surface of the rail. As I went down one side, keeping my hand on the rail, this projection warned me when I was approaching the end of the walk. Then I would be ready to go around the end of the rail and up the other side.

"But my present porch is long enough for me to take the exercise I need. Until a few years ago I went regularly to the gymnasium, where I did a great deal of heavy work with the apparatus. But when a man gets to be past fifty, he must be a bit careful about overtaxing his heart. So I have contented myself with walking as a means of keeping in condition."

"Do you try to picture to yourself how you and the people you knew intimately thirty years ago have changed?" I asked.

"I don't think about that as much as you imagine," was the smiling reply. "It probably interests *you* very keenly if you see yourself growing older in appearance. Of course I know that my hair is practically white, and that my center of gravity is a trifle lower in my body than it used to be. But I don't think much about how I appear. I am chiefly interested in how I feel.

"Perhaps this insensibility to change in appearance is one of the compensations of blindness. But, on the other hand, one misses many things. For instance I have three sons and three daughters. Four of my children I never have seen. Of the other two, one was nine months old, and the other a little past two years, when I last saw them. Of course I have been told about them: the color of their eyes and of their hair. I can put my hands on their faces, and I can know for myself how tall



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they are, and things of that sort. Still, I do of course miss a great deal.

"You asked whether my other senses have been keener because of the loss of my sight. The impairment of my hearing, of course, has nothing to do with the accident which destroyed my eyes. And the same conditions which have affected my ears have also impaired my senses of smell and taste. But even before this happened these senses were just about normal, I think. And the reason was that I did not try to develop them *beyond* normal.

"You see, it was like this: After my accident, I had to decide in my own mind on what basis I was going to work out my life. And I decided that I would try to live, just as nearly as possible, in the normal way I should have lived if I had not lost my sight.

"It seemed to me that the most important thing toward which I could strive was constructive work; work which would help in advancing the useful activities of others. Merely to cultivate my own senses might afford *me* some pleasures I should otherwise miss, but it certainly would not contribute to the progress of the world, would it? The course I chose to follow has had the effect of narrowing my life. Perhaps it has made it seem rather drab at times. But I think I may claim that I have accomplished, to a considerable degree, what I wanted to achieve.

"My research work in regard to steel has gone on without interruption. I have my own laboratory and two assistants to work with me. I have designed a good deal of the apparatus we use. I plan it in my mind, down to the smallest dimensions. I can tell exactly how the plans shall be drawn; or I can go to an instrument maker and give him precise specifications. When the apparatus is tried out, I direct changes if they are necessary.

"**E**VERY year I have a new assistant. My own work goes more slowly, because I must train every new man in my methods. But when he leaves me he is grounded in the fundamentals and is competent to contribute valuable service in applying scientific principles to industry.

"That is the reason why I do have to get a new assistant each year; for when I have trained them these men are in demand at much higher salaries than the university can pay them. But I feel that I have done a double service; I have helped to start them toward success and I have sent out men capable of contributing to our economic progress. That, it seems to me, is a constructive achievement.

"The research work has in itself been constructive. Perhaps I haven't accomplished as much in that direction as I should have if I had not been handicapped, but I have published about sixty articles in scientific journals giving the results of my studies.

"Almost twenty-five years ago, I began a study of Portland cement. I believed that it had a great future in industry and that there was an opportunity to do valuable work in standardizing its manufacture. I designed and had constructed various small furnaces, with which we made a great many experiments.

"The average person will not be interested in the details; but the work we did was a factor in standardizing manufacturing processes, which led to a great expan-



# "He has a pull"

LET US FACE frankly this question of "Pull."

It *does* exist in business. The President of a Company hires the son of a trusted friend. Why? Not merely because the young man is the son of a friend; but because the President believes *that good blood will tell*.

A Yale graduate, who is a general manager, hires a Yale graduate as an assistant. Why? Not merely because the younger man is a Yale man, but because the general manager believes that *training will tell*.



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There are men in Cincinnati who say of this man: "He has a pull with the Directors." They are right. But the "pull" is a perfectly legitimate one. The Directors, who owe a part of their success to the training of the Alexander Hamilton Institute, picked him because they believed that the same training had made him a man whose judgment they could trust.

This does not mean that every man who completes the Institute Course is "taken care of" in business. Business does not "take care of" anybody. It does mean, however, that with the knowledge and self-confidence that this training gives, you have an

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The Alexander Hamilton Institute makes no exaggerated claims and attempts to exert no pressure. It asks simply for the privilege of laying the full facts before thoughtful men. The facts are contained in a 118-page booklet entitled "Forging Ahead in Business."

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The very fact that you see *Whiz* Products on so many dealers' shelves is a mighty strong endorsement of their high quality and dependable utility.

But, when a dealer offers a *Whiz* Product to you to supply a need—you are doubly assured—he knows they make good or he wouldn't recommend them.

74,892 dealers bought 24,380,714 packages in 1922.

The *Whiz* Factory is the largest factory of its kind in the world—no other manufacturer employs so many people or devotes so much floor space to the manufacture of similar products.

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You'll find a need for it nearly every day—it will save you money, time and worry—it is just brim full of helpful information on how to care for the various units of your car—how to find and fix motor troubles. Write for it to-day—it's free to motorists—just say on a postcard—"Send me your book 44."



**98 Quality Products that Serve and Save**

sion of the industry. About 1895 this country was importing 2,000,000 barrels of cement annually and was making only 500,000 barrels. At present we are making almost 100,000,000 barrels a year! To have contributed something to that achievement is what I mean by constructive work.

"Two years ago, one of my papers was read before the Faraday Society in England. The title would not be even intelligible to the unscientific person; but to the expert, this paper—which was the logical conclusion of my years of research work in regard to iron and steel—would be not only theoretically interesting but also of practical value.

"You do not think of me as having any possible connection with the industrial development of this country. You feel a sort of half curious interest in me because, as you probably would say, I am 'a blind professor.' Yet the enormous advance in American industry during the past twenty-five years has come through the practical application of scientific principles. And these principles have been worked out," said Professor Campbell with a smile, "by the men who do a good deal of 'settin' and thinkin'."

"I VERY rarely sleep more than four or five hours a night. Usually I am awake from three until five in the morning; and it seems to me that the mind is at its best then. It is rested by the few hours of sleep one has had and it works clearly. I spend those two hours thinking over the problems I am studying at the time and in planning my work for the day.

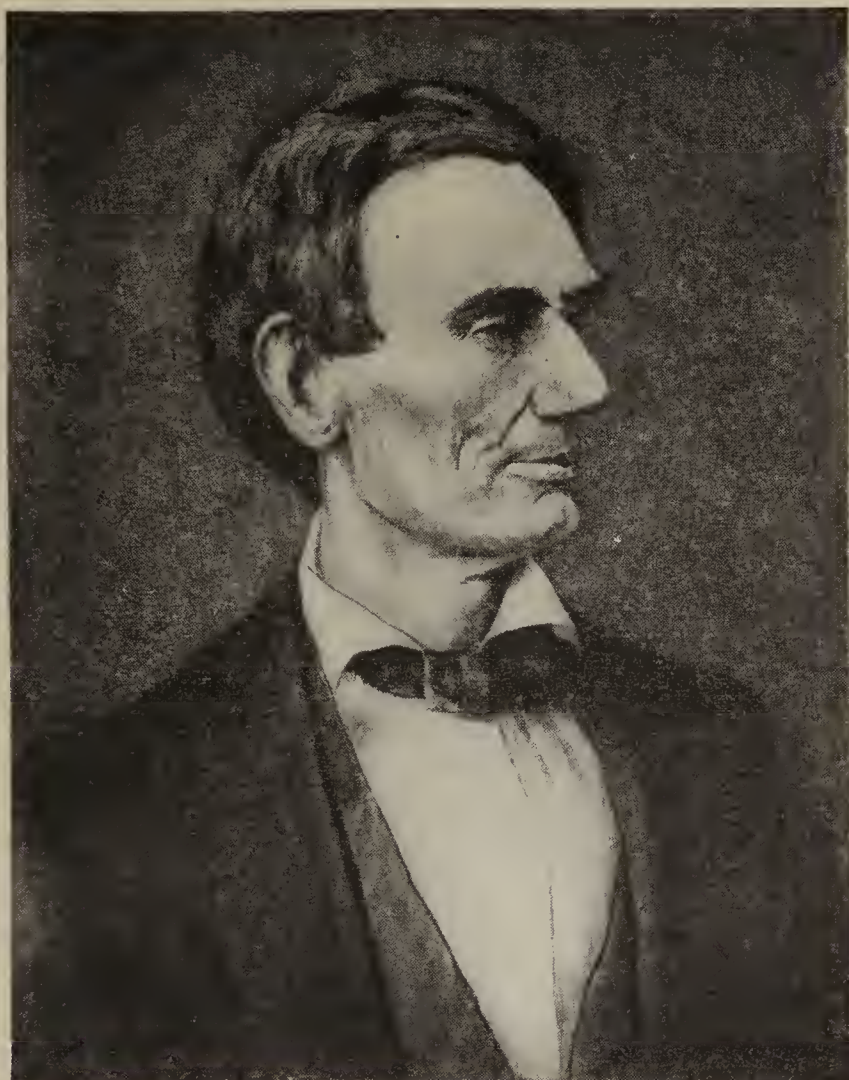
"Of course I do a great deal of reading—by proxy. At home, the members of my family read aloud the daily papers and the new books on general subjects. At my office, I conduct what I call Course 34; I select five of the advanced students and have them read aloud to me from the scientific journals. Each of them spends two hours a week doing this. I have each one follow up with me the latest developments along some special line. I discuss the subject with them, making it really a seminar with one student. In this way, they benefit by what would otherwise be merely a service to me.

"My time is not broken into by the trips which most people take for recreation. I get no 'change of scene' by traveling about; so why travel? I don't think I have been in New York since I went there for a meeting of scientists ten years ago. I got nothing from the city itself, except an impression of noise and confusion. I was not as comfortable as I am at home. I couldn't do much thinking there. And thinking is not only my chief resource, it is my chief means of making my life something more than mere existence.

"You see, any circumstance has various handles by which we can take hold of it. Perhaps this is particularly true of what we call an affliction. There is usually some handle which will enable us to use the circumstance; possibly it may help us even to find some compensating gain."

"Yes," I admitted, "that is undoubtedly true in the big things—the real essentials. But if the circumstance happens to be a physical handicap, there must be minor difficulties which are very annoying. For instance, I don't think I could even dress myself properly if I couldn't see."





From the original etching by Earl Hörter

# Suppose LINCOLN lived to-day!

**S**UPPOSE Abraham Lincoln were still living in Washington.

And suppose that one eventful day you and I should set out together to pay him a friendly little visit.

We take the train—we arrive at the White House—our names are announced—and presently we are ushered into the President's office.

A tall, gaunt, awkward man rises from his chair in kindly greeting. Somehow the quaint simplicity of his manner makes us feel at ease. And we sit down, you and I, and we talk to this great man.

The shadow of a smile lights up that homely face as he tells some little anecdote or story. We marvel at the kindness in those eyes—the strength of that familiar mouth. And we begin to understand his power over men.

**A**S he talks we can picture the scene of his humble birthplace in Kentucky—his reverence for his mother—his boyhood hopes and disappointments—his never-ending struggle for success.

And we can see him walking forty miles to borrow a book; we can see him reading it by the flickering light of that warm log fire. We can almost hear the taunts of his fellows as they tell him that he is wasting his time in "readin' and learnin'."

And then Lincoln's calm, prophetic answer—"I will study and get ready and some day my chance will come."

We see all this and more. And finally we rise to say good-bye to Abraham Lincoln.

But as we pass out the door—and for days afterward at our work—those simple words come back to us:

"I will study and get ready and some day my chance will come."

And ambition thrills our souls—we resolve that Opportunity is not dead—that there is still a chance for us if we, too, will but study and get ready.

**P**ERHAPS it is not written in the stars that you will become another Lincoln. Yet one never knows! Few men saw the making of a great president in the humble rail-splitter. But Lincoln looked ahead. He made each day count.

You, too, can make something of yourself if you will but dedicate a little of your spare time to preparation for the future.

To-day—right now—wherever you live or whatever you are, you have opportunities for study which Lincoln never had. Don't let them slip by.

You *can* have the position you want in the work you like best. You *can* have a salary that will make possible a happy, prosperous home, and the comforts and little luxuries of life that you would like your family to have. All you need is preparation to do some one thing well—the kind of training you can get in an hour a day of easy, fascinating study at home.

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**N**O matter where you live, the I. C. S. will come to you. No matter what your handicaps; or how small your means, we have a plan to meet your circumstances. No matter how limited your previous education, the simply-written, wonderfully-illustrated I. C. S. lessons make it easy to learn. No matter what career you choose, some one of the 300 I. C. S. courses will surely suit your needs.

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\$33.00 22 by 9 3/4 inches. Hand carved solid mahogany case, 6 inch porcelain dial, silver bezel and gold sash, convex glass. 8 day. Strikes the hour on Two Tone Chimes, half-hour in Harmony.

## The fourth member of the family

"SAND man's coming!", chimes the silvery voiced clock, "Small folks should be asleep!"

"Well! Well! Almost forgot the time!", exclaims Dad, looking up from his paper, as a heavy eyed youngster is bundled off to bed.

"Almost forgot!" But the clock never forgets. Day-in and day-out, year after year, it counts the fleeting hours and speaks their passing with its cheery chimes. Friendly clock! Honored member of the family!

You'll be so proud of your Sessions Clock; proud of its beauty, its accuracy, and fine workmanship. And—don't whisper this to a soul—you'll be astonished at its moderate price. The best in clocks at the fairest prices has been the product of this firm for over fifty years.

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\$18 21 1/2 by 9 1/2 inches.  
6 inch porcelain  
dial, convex glass, 8 day.  
Rich mahogany finish case.  
Strikes hour on Cathedral  
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Bell.



# Sessions Clocks

DEPENDABLE AS TIME ITSELF

"Oh, yes, you could," said Professor Campbell. "You would find your sense of touch much more serviceable than you imagine it could be. For instance, I shave myself; and I use the same razor that my father gave me when I was a sophomore in college, thirty-nine years ago, a fine old-fashioned English razor."

"But you have a very smooth skin, without wrinkles or deep lines," I objected.

"One reason for that," he said, "is that I always shave with cold water. Most men think they must have hot water. But I think that cold water keeps the skin hard and smooth. On that trip to New York fifteen years ago," he added, with a laugh, "the Pullman porter saw me shaving myself with my old straight razor, while the train was swaying and jolting along. He knew I was blind; and my friends told me that he came to them, with his own eyes fairly popping out, to protest that I would certainly do myself some serious injury. But I never have cut myself. Perhaps, after all, my sense of touch is better than the average. Like the memory, it improves with use."

"For instance, you asked whether I get an impression of a person's character by hearing him speak. I don't think voices reveal much more to me than they do to you. But I do get a very strong impression of an individual's personality by shaking hands with him. When I meet strangers, I form a pretty strong opinion of them from their hand-shake. And I usually find that this opinion stands the test of longer acquaintance. There is an involuntary revelation of character in the way a person shakes hands, and even in the 'feel' of the hand itself."

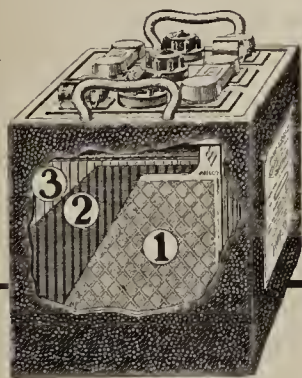
"ONE of the most important things I have had to learn was deliberation in movement. If the telephone on my desk rings, I must put out my hand slowly until it touches the instrument. Otherwise, I may knock it over. If I want to cross the room, I must do it slowly. I had to school myself to do this. People, I think, get the idea that this slowness of movement implies a certain feebleness; but that is a mistake. It is a lesson learned through an experience filled with literal hard knocks."

"In what ways do we, who have our eyesight, make things harder for people who cannot see?" I asked.

"Well, occasionally someone upsets our calculations by moving things without telling us about it. If a piece of furniture is moved, and I don't know of the change, I have to learn it by getting a few bruises. All such things—the arrangement of furniture, of the articles on my desk, the apparatus in my laboratory—are diagrammed in my mind. If you wanted to cure a person of disorderliness," added Professor Campbell with a smile, "you could do it by compelling him to go blindfolded. He would soon learn to have a place for everything and to keep everything in its place."

I have quoted what Professor Campbell said about people feeling a half-curious interest in him as "just a blind professor." But he does not realize what people do think about him. I talked with his associates in the university; and I wondered how many human beings would have fought a great handicap and have won





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1. **The Famous Diamond-Grid**—the diagonally braced frame of a Philco plate. Built like a bridge. Can't buckle—can't warp—can't short-circuit. Double latticed to lock active material (power-producing chemical) on the plates. Longer life. Higher efficiency.

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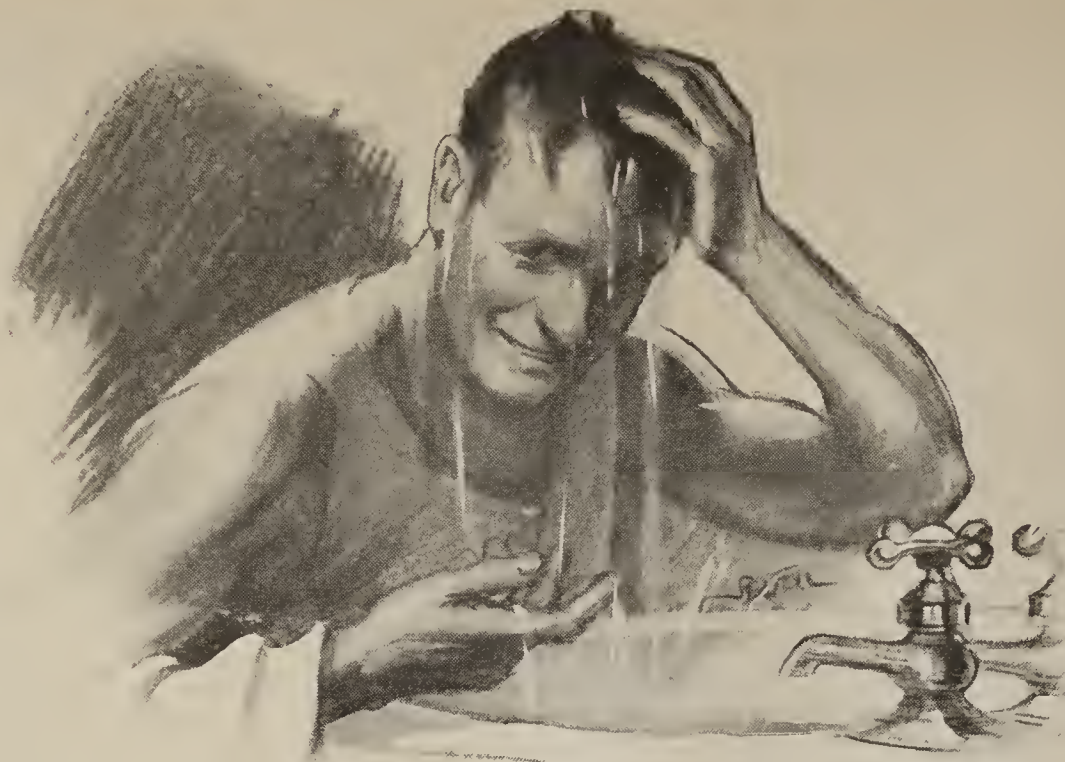
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A very common cause of baldness is the thoughtless practice of daily soaking the hair with water. This fact is not generally known, but is one which doctors recognize.

Water applied to the scalp and undried, is apt to combine with the scalp's natural oil and form a paste which clogs the follicles and prevents their natural activity.

If your hair is unruly through lack of natural oil, we recommend the occasional application of a few drops of fresh Sweet Almond Oil.

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such respect and admiration as he has won, not only for himself personally, but also for the work he has accomplished.

"Don't take our opinion of him," said one of the faculty. "Here is something that was written by two of the most eminent British scientists. Referring to Professor Campbell's experiments on the diffusion of sulphur in hot iron, they say:

"Some of his data, and the conclusions he deduced therefrom, were of such a startling and improbable nature that his work was hardly deemed worthy of serious discussion by theoretical metallurgists." But they go on to say that they have 'the utmost pleasure in directly confirming the accuracy of his general conclusion, and congratulate him upon an important discovery, so remarkable and unexpected as to have been received with general incredulity.'

"That is high praise, is it not? But the most important thing in relation to his work is the *amount* of valuable research which he has carried on. He has recently evolved a new theory about steel. And while it is not yet universally accepted none of his claims has been disproved.

"His memory and his power of concentrated thought are extraordinary. And they are the direct result, the splendid by-product, of a handicap, which most men would have considered insuperable. His knowledge of technical apparatus is amazing. When he is working with students in the laboratory, he examines every piece of equipment they use, to make sure that they are doing things right.

"IN MAKING experiments with steel very high temperatures are often necessary. Professor Campbell has devised a remarkably sensitive galvanometer for measuring these temperatures. It is so delicate that the greatest care is required in its handling. Yet he never trusts any one else to adjust it! Blind though he is he himself takes off the glass covers which protect it; then, carefully feeling for the screw, he turns it, while someone gives him the reading on the scale, until he gets it exactly as he wants it. It is an example not of the blind leading the blind, but of the blind leading the *seeing*.

"And his personality is as remarkable as his scientific achievements. I have known him for many years; yet I never have seen him lose his temper. I never have seen him *show* any depression or gloom. In a certain sense, he seems to walk apart from the world. But while he has this sort of detachment, there is no morbid aloofness. Have you noticed him as he walks on the campus or along the street? His head is held high; he is as erect as a boy; he never will carry a cane and go along, tapping the sidewalk! It is as if he said, 'I am blind—but I will not *act* blind!' I often walk on the street with him; and he is so responsive that the slightest pressure on his arm is enough to enable us to move about with no indication of the fact that he does not see.

"I was a student in his classes when the accident happened that robbed him of his sight. It *might* have robbed him of his usefulness and of his happiness, if he had been a 'quitter.' But he wasn't! He has done a man's work in the world. He has helped other men to do *their* work. I couldn't do anything better and finer than that, if he had a hundred pairs of eyes."



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